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SOURCE Meteorologiya i Gidrologiya, No 1, 2, 5, 1946.NOTES ON SOVIET METEOROLOGY AS OF 1946

The following items are extracted for the "Current News" section of Meteorologiya i Gidrologiya, No 1, January-February, 1946.

The Main Geophysics Observatory is now publishing monthly climatic maps for aviation. These maps are drawn by workers directed by O. A. Drozdov. In constructing the maps, indirect approach must be used and special studies must be made since actual data is generally insufficient. The maps cover up to 20 climatic elements. In 1945, seven maps were published for the ~~European~~ USSR and five for East Siberia, the Far East, and Japan. Further studies will be published in 1946.

L. F. Shcherbakova and I. A. Kobelev have devised equipment for investigating the vertical distribution of temperature in the 200-meter air layer. This equipment is designed for use in a special tower in Sel'tsa and in small captive balloons. Special resistance thermometers and high-sensitivity meteorographs were built to meet these requirements.

An interesting design for remote transmission of angular displacements caused by meteorological transmitting elements was proposed by B. V. Shchukin. The design may find wide application for remote meteorological measurement (telemetering) which has recently obtained ever-increasing importance. L. S. Yakovleva worked out a system for the scale of a remote psychrometer and evaluated the possible accuracy of remote humidity measurements.

On the basis of a detailed inspection of geophysical observatories in Riga, Kaunas, Kiev, Odessa, Kuybyshev, Irkutsk, Novosibirsk, Chita, and the marine observatory at Tallin, practical measures were devised to improve the work of local observatories. Inspection of points of wind and temperature sounding in Polyarnyy, Nar'yan-Mar, Kegostrov, Vologda, Petrozavodsk, Kaunas, Riga, Tallin, Daugavpils, and Libav, and also in the Far East resulted in improvement in the operation of the network.

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Much work has been done in drawing up an optimum plan for a base network of hydrometeorological stations in the USSR. Plans were prepared in the Main Geophysical Observatory, and in the State Hydrological and State Oceanographic Institute and then sent to the proper administrations for completion. The plans have already been returned and submitted to a special commission for confirmation. In the final draft of the network, the total number of stations was increased to 10,000 and the number of hydrological and rain-metering posts to 23,500.

Two expeditions have been organized to implement research studies of the Main Geophysics Observatory, one in the Central Asia region to study vertical variations of the meteorological elements in the surface-air layer and one in the middle Volga region to determine topographical effects upon wind currents and temperature conditions in the surface-air layer.

The article below was developed from two Russian writings: "The Central Construction Bureau in 1945," by V. A. Putokhin, in Meteorologiya i Gidrologiya, No 2, March-April, 1946, and "The Development of Aerological Works in the Postwar Five-Year Plan," by I. G. Guterman and N. Z. Pinus, in issue No 5, September-October 1946, of the same periodical.

The serious defects of the present comb radiosonde are well known. In 1945, the Central Construction Bureau designed the new "Volna" radiosonde and a recorder for it (semiautomatic and automatic). The new radiosonde, based upon the principle of variation in wave length with variation of the meteorological elements, has been accepted for series production and will be made at the Sverdlovsk plant of the Hydrometeorological Service. Lower weight, more accurate indications, and better reception (since reception is produced as a recording, and not by ear) are the advantages of the new radiosonde in comparison with the comb radiosonde.

The quality of radiosounding in the USSR will be considerably improved after the introduction of the new radiosonde in the network. However, the quality of radiosonde observations also depends upon the special equipment at the stations. The KUB-4 receiver now used has long been obsolete and must be replaced by more powerful and up-to-date receivers. The radiosonde laboratory must be equipped with the necessary ventilation units for indoor and outdoor ground check of radiosonde elements, for control calibration of Bourdon tubes and bimetallic strips, for tuning and regulation of radiosondes and electrical measuring equipment, etc.

In this problem, aerologists rely upon the Central Construction Bureau of the Hydrometeorological Service. The need for expensive airplane sounding will disappear when the "Volna" radiosonde is supplied to the network and when radar is used to determine height, thickness, and stratification of clouds, icing conditions, etc. Airplane sounding can then be used only for research purposes and thus the number of airplane sounding points can be reduced.

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